

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2018

Subject Code: 2142306

Date: 01/12/2018

Subject Name: Manufacturing of plastics Material-2

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

MARKS

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|------------|--|-----------|
| Q.1 | (a) Write the structures of Isotactic, Syndiotactic and Atactic PP and compare their properties. | 03 |
| | (b) Explain the bulk polymerization technique along with its advantages and disadvantages. | 04 |
| | (c) List the points of difference between Addition and Condensation polymerization. | 07 |
| Q.2 | (a) Explain the monomer preparation process of Styrene. | 03 |
| | (b) Compare the properties of Thermoplastics with Thermosets. | 04 |
| | (c) With a neat sketch, explain the manufacturing of PS by the tower process. | 07 |
| | OR | |
| | (c) Give the structure and list the properties and applications of Polyacetal. | 07 |
| Q.3 | (a) Define i) Crystallisation ii) Distillation iii) Absorption | 03 |
| | (b) List the properties and applications of PC. | 04 |
| | (c) With a neat sketch explain the process for manufacturing of isotactic PP. | 07 |
| | OR | |
| Q.3 | (a) Write the structure and list the properties of PPS. | 03 |
| | (b) List the properties and applications of PVC. | 04 |
| | (c) With a neat sketch explain the manufacturing of Nylon 6. | 07 |
| Q.4 | (a) Compare the properties of LDPE with HDPE. | 03 |
| | (b) Enlist the properties and applications of PET. | 04 |
| | (c) With a neat flow diagram, explain the High Pressure process to manufacture LDPE. | 07 |
| | OR | |
| Q.4 | (a) List the applications of HDPE. | 03 |
| | (b) List the properties and applications of PEEK. | 04 |
| | (c) Explain the manufacturing of PC by phosgenation process. | 07 |
| Q.5 | (a) List the applications of Nylons. | 03 |
| | (b) List the properties and applications of PS. | 04 |
| | (c) With a neat sketch explain the manufacturing of PVC by suspension polymerization. | 07 |
| | OR | |
| Q.5 | (a) List the properties and applications of PTFE. | 03 |
| | (b) Explain the manufacturing of Nylon 66. | 04 |
| | (c) Draw the structure and list the properties and applications of ABS. | 07 |
